Remarks

Claims 1-2, 8-15 and 21-26 are pending. Claims 3-7 and 16-20 were previously withdrawn from consideration. Claims 1 and 14 are amended to more particularly point out and distinctly claim the Applicant's invention. Claims 10-13 and 23-26 are canceled without prejudice. Therefore, Claims 1-2, 8-9, 14-15 and 21-22 are pending.

Claim Rejections – 35 USC §103

Claims 1-2, 8-10, 14-15 and 21-23 are rejected under 35 U.S.C. § 103(a) as being obvious over the article "A Distributed Event Logging System" ("Jaiswal"), in view of the article "Netlogger: A Toolkit for Distributed System Performance Analysis" ("Gunter") and xntpd ("xntpd").

The Office Action states with respect to independent Claims 1 and 14:

> Jaiswal teaches:
>
> A distributed system comprising: a plurality of cooperative processes running on a plurality of processors of a computer network to accomplish a distributed transaction.(Page 1 para 2) each process logging in a local resource records of execution of the distributed transaction by the process on its processor; and a search engine running on each of the plurality of processors.(Section 5 para 2) each search engine retrieving corresponding records of execution in response to a query regarding the distributed transaction(Section 6).
>
> Jaiswal fails to expressly disclose:
>
> a system synchronizer sending a timing message to be logged to the plurality of cooperative processes;
>
> However, this limitation would have been obvious in view of Gunter which uses NTP and xntpd to synchronize the time of all of the servers in a distributed processing system, and xntpd which teaches the logging of the periodic timing messages received by servers as part of the xntpd daemon used (monitoring option).

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Gunter:

2.1 Clock Synchronization: NTP

To analyze a network-based system using timestamps, the clocks of all systems involved must be synchronized. This can be achieved by using the Network Time Protocol (NTP) [10]. By installing a GPS-based NTP server on each subnet of the distributed system, and running the *xntpd* daemon on each host, all host clocks can be synchronized to within about 0.25 ms of each other. It has been our experience that most application-significant events can be accurately characterized by timestamps that are accurate to about 1 ms, well within NTP's tolerances. If the closest time source is several IP router hops away, NTP accuracy will be somewhat less, but probably still accurate enough for many types of analysis. The NTP web site[2] has a list of public NTP servers that one may be able to connect and synchronize with.

Thus, it would have been obvious to one of ordinary skill in the art at the time of the invention to include these features, as they provide more accurate timing to provide more accurate analysis.

Applicant traverses the Examiner's rejection. As amended, Claim 1 recites generating indices in memory and in a storage medium:

1.   A distributed system comprising:

a plurality of cooperative processes running on a plurality of processors of a computer network to accomplish a distributed transaction, each process logging, in a local resource, records of execution of the distributed transaction by the process on its processor; and

a system synchronizer sending a timing message to be logged to the plurality of cooperative processes;

a search engine running on each of the plurality of processors, each search engine retrieving corresponding records of execution in response to a query regarding the distributed transaction,

<u>wherein each search engine generates indices in memory, and a portion of the indices are stored onto a storage medium after a specific time period; and the indices in memory and the portion of the indices stored onto the storage medium are merged subsequently.</u>

(Emphasis added)

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The amendment to Claim 1 is supported by the original Claims 10-13 and 23-26.

Therefore, contrary to Claim 1, Jaiswal does not disclose or suggest "each search engine generates indices in memory, and a portion of the indices are stored onto a storage medium after a specific time period; and the indices in memory and the portion of the indices stored onto the storage medium are merged subsequently".

Thus, amended Claim 1 is patentable over Jaiswal under 35 U.S.C. 103.

Neither Gunter nor xntpd discloses indexing and merging logged events as described in Claim 1. Hence, Gunter and xntpd do not cure Jaiswal's deficiencies.

Claims 11-12 and 24-25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Jaiswal in view of Gunter and xntpd, further in view of Dickey (US 6,647,515).

Claims 11-12 are canceled and their limitations have now been incorporated into the amended Claim 1. Claims 24-25 are canceled and their limitations have now been incorporated into the amended Claim 14.

Regarding Claims 11-12, the Office Action states: "Dickey col 2 lines 1-14 teaches storing initially in memory, Col 5 lines 31-39 teaches offloading to a disk storage".

Dickey wrote:" The data processing system or error log system include a set of memory cells" (Col. 2 lines 9-11), and "If it is time to clear the error logs, a central processing unit (CPU) reads the error log information, performs any appropriate actions, and transfers the information to an appropriate destination, such as a disk memory" (Col. 5, lines 31-34).

Although Dickey discloses transferring logged data from the memory cells to a disk, Dickey does not describe "a portion of the indices are stored onto a storage medium after a specific time period; and the indices in memory and the portion of the indices stored onto the storage medium are merged subsequently", as recited in Applicant's Claim 1.

Therefore, amended Claim 1 is patentable over the combined teaching of Jaiswal, Gunter, xntpd and Dickey. Claims 2, 8 and 9 depend from Claim 1, thus are patentable for at least the same reason as Claim 1.

Claim 14 is amended substantially the same way as Claim 1 is, and for substantially the same reasons, Claims 14-15 and 21-22 are each similarly also allowable over the combined teachings of Jaiswal, Gunter, xntpd and Dickey.

Conclusion

Therefore, Applicant requests reconsideration and allowance for Claims 1-2, 8-9, 14-15 and 21-22.

The Commissioner is authorized to charge any underpayment or credit any overpayment to Deposit Account No. <u>08-1394</u> for any matter in connection with this response, including any fee for extension of time and/or fee for additional claims, which may be required. Any questions regarding this case can be addressed to the undersigned at the telephone number below.

<table>
<tr><td>
Certificate of Transmission: I hereby certify that this correspondence is being transmitted to the United States Patent and Trademark Office (USPTO) via the USPTO's electronic filing system on May 14, 2009.

Edward C. Kwok

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Respectfully submitted,

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